warning traffic control devices in conformance with the Contract Documents.

Temporary pavement tie-ins shall be constructed a minimum of 4 ft in length for each 1 in. of milling depth.

In addition to any other equipment required to remove debris from behind the milling operation, a street sweeper equipped with a vacuum shall be used to remove the dust prior to returning the area to traffic.

After the milling operation is complete, all depressions, potholes, and other irregularities shall be filled and any existing water valves, meters, manhole covers, etc., shall be wedged using HMA.

### 508.04 MEASUREMENT AND PAYMENT.

**508.04.01** Milling Hot Mix Asphalt Pavement will be measured and paid for at the Contract unit price per square yard. The square yard measurement will be computed from the actual width and length measurements of the area that has been milled. The payment will be full compensation for milling, the disposal of milled material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

**508.04.02** Filling depressions and potholes, and wedging manholes, valves boxes, inlets, or other structures, using hot mix asphalt will be measured and paid for as specified in 106.04.

**508.04.03** Hot Mix Asphalt Patches will be measured and paid for as specified in 505.04.

## SECTION 509 — GRINDING HOT MIX ASPHALT PAVEMENT

**509.01 DESCRIPTION.** This work shall consist of grinding the hot mix asphalt (HMA) pavement to the depth and at the locations specified in the Contract Documents or as directed by the Engineer.

### 509.02 MATERIALS.

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|---|---|
| Hot Mix Asphalt (HMA) | 904 |

**509.03 CONSTRUCTION.** Roadway patching shall be performed before the grinding operation. Additional roadway patching may be

required to correct pavement defects made visible by the grinding operation. Refer to Section 505 for HMA Patches.

**509.03.01 Equipment.** The grinding equipment shall have a cutting mandrel with carbide tipped cutting teeth and shall be designed specifically for grinding asphalt surfaces to close tolerances. The equipment shall accurately establish slope elevations and profile grade controls.

A vacuum equipped street sweeper, capable of removing all loose material from the roadway without causing dust to escape into the air, shall follow immediately behind the grinding machine.

**509.03.02 Control Strip.** The Contractor shall grind a control strip. The strip shall be 500 ft minimum in length with a uniformly textured surface and cross section as approved by the Engineer.

The final pavement surface shall have a transverse pattern of 0.2 in. center to center of each strike area. The difference between the high and low of the matted surface shall not exceed 1/16 in.

**509.03.03 Pavement Grinding.** The designated area shall be ground using the same procedures, settings, and speed, and conform to the same requirements as those used in the control strip.

When necessary, the existing pavement adjacent to the ground pavement areas shall be ground, to maintain an adequate cross slope for drainage. Grinding will not be required on bridge decks.

The grinding operation shall be performed in only one lane at a time. When grinding highways carrying traffic, all grinding exceeding 2-1/2 in. shall have the abutting lane or shoulder ground on the same day. When grinding to a depth of 2-1/2 in. or less, the Contractor has the option of grinding the abutting lane or shoulder on alternate days. The abutting lane or shoulder shall be ground regardless of depth prior to weekends and temporary shutdowns. Where uneven pavement joints exist, the Contractor shall provide adequate advance warning traffic control devices in conformance with the Contract Documents.

Temporary pavement tie-ins shall be constructed a minimum of 4 ft in length for each 1 in. of grinding depth.

After the grinding operation, the pavement surface shall be tested transversely and longitudinally with a 10 ft straightedge furnished by the Contractor. The difference between the bottom of the straightedge and the matted surface shall not exceed 1/8 in. All areas with high spots greater than 1/8 in. within 10 ft shall be corrected by additional grinding

at no additional cost to the Administration. Straightedge requirements apply to areas across joints and repaired cracks but are not applicable to areas outside the ground area.

After the grinding operation is complete, all depressions, potholes, and other irregularities shall be filled and any existing manholes, valve boxes, inlets, or other structures shall be wedged using HMA conforming to Section 504.

**509.04 MEASUREMENT AND PAYMENT.** Grinding Hot Mix Asphalt Pavement with Carbide Cutting Bits will be measured and paid for at the pertinent Contract unit price per square yard. The square yard measurement will be computed from the actual width and length measurements of the area that has been ground. The payment will be full compensation for grinding, removal and disposal of ground material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

**509.04.01** Filling depressions and potholes, and wedging manholes, valve boxes, inlets, or other structures using hot mix asphalt will be measured and paid for as specified in 106.04.

**509.04.02** Hot Mix Asphalt Patches will be measured and paid for as specified in 505.04.

# SECTION 510 — FILLING CRACKS IN HOT MIX ASPHALT PAVEMENTS

**510.01 DESCRIPTION.** This work shall consist of cleaning and filling cracks 1/8 to 1-3/4 in. wide in hot mix asphalt (HMA) pavement as specified in the Contract Documents or as directed by the Engineer. Cracks less than 1/8 in. wide shall not be filled. Distressed areas shall be repaired as specified herein and as directed by the Engineer. Cracks more than 1-3/4 in. wide; and map, edge or alligator cracks requiring major repairs are not included in this Specification (refer to Section 505).

**510.02 MATERIALS.**

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|---|---|
| Performance Graded Asphalt Binders and Hot Mix Asphalt (HMA) | 904.04 |
| Crack Filler | 911.01 |
| Aggregate | M 43, No. 10 |
| Tack Coat | M 140 |